

0069487

SAF-RC-048
100 Area and 300 Area Component of the
RCBRA Water Sampling
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jill Thomson

H0-23

NB 4/20/06
INITIAL/DATE

Jeanette Duncan

H9-02

NB 4/20/06
INITIAL/DATE

COMMENTS:

SDG J00067

SAF-RC-048

Rad only

X Chem only

Rad & Chem

X Complete

Partial

Waste Site: 199-N-74

RECEIVED
APR 28 2006
EDMC



Analytical Data Package Prepared For
Washington Closure Hanford

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains 19 Pages

Report No.: 31653

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
J00067	RC-048	J11J37	J6C060222-1	H0PPC1AA	9H0PPC10	6065448

Certificate of Analysis

Washington Closure Hanford
3190 George Washington Way
Richland, WA 99354

March 20, 2006

Attention: Joan Kessner

SAF Number	:	RC-048
Date SDG Closed	:	March 6, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	J00067
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

On March 6, 2006, one water sample was received at STL Richland (STLR) for chemistry analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

<u>WCH ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
J11J37	H0PPC	WATER	3/6/06

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors. The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

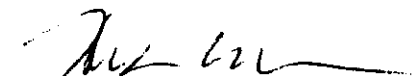
Chemical Analysis

Hexavalent Chromium by EPA method 7196A:

The LCS, batch blank, sample, sample matrix spike (J11J37), sample matrix spike duplicate (J11J37) and sample duplicate (J11J37) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Hans Carman
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5008
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c - Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c the combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 20-Mar-06

STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 31653

SDG No: J00067

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6065448	7196_CR6								
	J11J37								
	H0PPC1AA	HEXCHROME	2.00E-03 +/- 0.00E+00	U	mg/L	N/A	2.00E-03	2.00E-03	
	H0PPC1AE	HEXCHROME	2.00E-03 +/- 0.00E+00	U	mg/L	N/A	2.00E-03	2.00E-03	0.0
No. of Results: 2									

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rptSTLRchSaSum
mary2 V4.15.0 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

QC Results Summary
STL Richland STLRL
 Ordered by Method, Batch No, QC Type,.

Date: 20-Mar-06

Report No. : 31653

SDG No.: J00067

Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
7196_CR6									
6065448 MATRIX SPIKE									
	H0PPC1AC	HEXCHROME	5.60E-01 +/- 0.00E+00		mg/L	N/A	106%	0.1	2.00E-03
	H0PPC1AD	HEXCHROME	5.63E-01 +/- 0.00E+00		mg/L	N/A	107%	0.1	2.00E-03
6065448 LCS									
	H0PT21AC	HEXCHROME	5.25E-01 +/- 0.00E+00		mg/L	N/A	105%	0.1	2.00E-03
6065448 BLANK QC									
	H0PT21AA	HEXCHROME	2.00E-03 +/- 0.00E+00	U	mg/L	N/A			2.00E-03
No. of Results: 4									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by
 mary V4.15.0 A97 gamma scan software.

FORM I

Date: 20-Mar-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: J00067

Collection Date: 3/6/2006 9:19:00 AM

Lot-Sample No.: J6C060222-1

Report No.: 31653

Received Date: 3/6/2006 2:05:00 PM

Client Sample ID: J11J37

COC No.: RC-048-376

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065448	7196_CR6				Work Order: H0PPC1AA		Report DB ID: 9H0PPC10					
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	3/6/06		100.0	
							2.00E-03	N/A			ML	

No. of Results: 1

Comments:

FORM II

Date: 20-Mar-06

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: J00067

Collection Date: 3/6/2006 9:19:00 AM

Lot-Sample No.: J6C060222-1

Report No.: 31653

Received Date: 3/6/2006 2:05:00 PM

Client Sample ID: J11J37

COC No.: RC-048-376

Matrix: WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065448	7196_CR6				Work Order: H0PPC1AE			Report DB ID: H0PPC1ER		Orig Sa DB ID: 9H0PPC10		
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	3/6/06		100.0	
	2.00E-03	U	RPD 0.0			2.00E-03		N/A			ML	

No. of Results: 1 Comments:

STL Richland

RPD - Relative Percent Difference.

rptSTLRchDupV4.1
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MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 20-Mar-06

Lab Name: STL Richland

SDG: J00067

Matrix: WATER

Report No. : 31653

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6065448	7196_CR6				Work Order: H0PT21AA	Report DB ID: H0PT21AB						
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	3/6/06		100.0	
						2.00E-03		N/A			ML	

No. of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 20-Mar-06

Lab Name: STL Richland

SDG: J00067

Matrix: WATER

Report No. : 31653

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6065448	7196_CR6			Work Order: H0PT21AC			Report DB ID: H0PT21AS					
HEXCHROME	5.25E-01		0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		105%	3/6/06	100.0	
						Rec Limits:	85	115	0.1		ML	

No. of Results: 1

Comments:

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V4.15.0 A97

FORM II MATRIX SPIKE RESULTS

Date: 20-Mar-06

Lab Name: STL Richland

SDG: J00067

Lot-Sample No.: J6C060222-1

Report No. : 31653

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6065448	Work Order: H0PPC1AC		Report DB ID: H0PPC1CW		Orig Sa DB ID: 9H0PPC10							
HEXCHROME	5.60E-01		0.0E+00	2.00E-03	mg/L	N/A	106.46%	5.28E-01		3/6/06	100.0	7196_CR6
	2.00E-03										ML	
Batch: 6065448	Work Order: H0PPC1AD		Report DB ID: H0PPC1DW		Orig Sa DB ID: H0PPC1CW							
HEXCHROME	5.63E-01		0.0E+00	2.00E-03	mg/L	N/A	107.03%	5.26E-01		3/6/06	100.0	7196_CR6
	5.60E-01										ML	

Number of Results: 2

Comments:

STL Richland RER - Replicate Error Ratio = $(S-D)/[\sqrt{sq(TPU_s)+sq(TPU_d)}]$ as defined by ICPT BOA.
 rptSTLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.15.0 A97

FORM II

Date: 20-Mar-06

MATRIX SPIKE DUPLICATE RESULTS

Lab Name: STL Richland

SDG: J00067

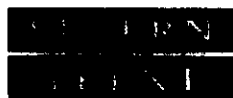
Lot-Sample No.: J6C060222-1

Report No. : 31653

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 6065448	7196_CR6			Work Order: H0PPC1AC		Report DB ID: H0PPC1CW		Orig Sa DB ID: H0PPC1DW					
HEXCHROME	5.60E-01			0.0E+00	2.00E-03	mg/L	N/A	106.46%	5.26E-01		3/6/06	100.0	
	5.63E-01	RPD	0.5									ML	
Batch: 6065448	7196_CR6			Work Order: H0PPC1AD		Report DB ID: H0PPC1DW		Orig Sa DB ID: H0PPC1CW					
HEXCHROME	5.63E-01			0.0E+00	2.00E-03	mg/L	N/A	107.03%	5.26E-01		3/6/06	100.0	
	5.60E-01	RPD	0.5									ML	
No. of Results: 2	Comments:												

STL Richland RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$ as defined by ICPT BOA.
 rptSTLRchMsDup2 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V4.15.0 A97



STL

Richland Laboratory Data Review Check List Hexavalent Chromium

Work Order Number(s): H0PPC				
Lab Sample Numbers or SDG:				
Method/Test/Parameter: Cr+6 in WATER / RICH-WC-5003, Rev 7				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration	✓			✓
1. Performed at required frequency with required number of levels?	✓			✓
2. Correlation coefficient within QC limits?	✓			✓
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			✓
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters \leq reporting limit?	✓			✓
B. Continuing Calibration	✓			✓
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			✓
2. CCB analyzed at required frequency and all results \leq reporting limit?	✓			✓
C. Sample Analysis	✓			✓
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			✓
2. Were all sample holding times met?	✓			✓
D. QC Samples	✓			✓
1. All results for the preparation blank below limits?	✓			✓
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			✓
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			✓
4. Analytical spikes within QC limits where applicable?			✓	✓
5. ICP only: One serial dilution performed per SDG?			✓	✓
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	✓
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	✓

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
E. Other				
1. Are all nonconformances included and noted?				
2. Is the correct date and time of analysis shown?	✓			
3. Did the analyst sign and date the front page of the analytical run?	✓			
4. Correct methodology used?	✓			
5. Transcriptions checked?	✓			
6. Calculations checked at minimum frequency?	✓			
7. Units checked?	✓			

Comments on any "No" response

Analyst: Heather E. Mendenhall

Date: 3/6/06

Second-Level Review: Mr. L. Mendenhall

Date: 4-17-06

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-048-376		Page 1 of 1	
Collector DONATEL F. M. HALL	Company Contact JOAN KESSNER	Telephone No. 375-4688		Project Coordinator KESSNER, JH		Price Code 7N		Data Turnaround 45 Days	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa		Sampling Location 199-N-74		SAF No. RC-048		Air Quality <input type="checkbox"/>			
Ice Chest No. AFS-04-055		Field Logbook No. EL-1592		COA BESRAS6520		Method of Shipment GOV. VEHICLE			
Shipped To Severn Trent Incorporated, Richland		Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A					
POSSIBLE SAMPLE HAZARDS/REMARKS POTENTIAL RADIOACTIVE J6C060222 Special Handling and/or Storage J00067 COOL 4C Due: 4/20/06 Q#: 27023				Preservation	Cool 4C				
				Type of Container	G/P				
				No. of Container(s)	1				
				Volume	500mL				
SAMPLE ANALYSIS				Chromium Hex - 7196					
Sample No.	Matrix *	Sample Date	Sample Time						
J11J37	WATER	3-6-06	0919	X	HOPC				
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From F. M. HALL		Date/Time 1030 3-6-06	Received By/Stored In DAVID HARRIS		Date/Time 1030 3-6-06	4.50 <1000cpm			
Relinquished By/Removed From RZ Steffler R. J. Steffler		Date/Time 1120 3-6-06	Received By/Stored In RZ Steffler R. J. Steffler		Date/Time 1120 3-6-06				
Relinquished By/Removed From RZ Steffler R. J. Steffler		Date/Time 1405 3-6-06	Received By/Stored In DAVID HARRIS		Date/Time 1405 3-6-06				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
Relinquished By/Removed From		Date/Time	Received By/Stored In		Date/Time				
LABORATORY SECTION		Received By		Title		Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			



STL

Sample Check-in List

- Date/Time Received: 3/6/06 14:05
- Client: BHI SDG # 500067 NA ☐ SAF #: RC-048 NA ☐
- Work Order Number: JCC000222 Chain of Custody # RC-048-376
- Shipping Container ID: AFS-04-055 Air Bill # _____
1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
 2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
 3. Chain of Custody record present? Yes ☒ No ☐
 4. Cooler temperature: 4.5°C NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
 6. Number of samples in shipping container: 1
 7. Sample holding times exceeded? NA ☐ Yes ☐ No ☒
 8. Samples have:
____ tape _____ hazard labels
____ custody seals _____ appropriate samples labels
 9. Samples are:
____ in good condition _____ leaking
____ broken _____ have air bubbles
(Only for samples requiring head space)
 10. Sample pH taken? NA ☒ pH < 2 ☐ pH > 2 ☐ adjusted pH ☐
 11. Sample Location, Sample Collector Listed? * Yes ☒ No ☐
*For documentation only. No corrective action needed.
 12. Were any anomalies identified in sample receipt? Yes ☒ No ☐
 13. Description of anomalies (include sample numbers): _____

Sample Custodian [Signature]

Date: 3-6-06

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 12/05, Rev. 6

3/6/2006 4:22:08 PM

Sample Preparation/Analysis

Balance Id:

127642, Bechtel Hanford, Inc.
Hanford, Inc.

, Bechtel

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)

Pipet #: _____

Report Due: 04/20/2006

51 CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 6065448 WATER mg/L

PM, Quote: HC , 27023

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 HOPPC-1-AA

J6C060222-1-SAMP

03/06/2006 09:19

AmtRec: 500ML

#Containers: 1

Scr:

Alpha:

Beta:

2 HOPPC-1-AC-S

J6C060222-1-MS

03/06/2006 09:19

AmtRec: 500ML

#Containers: 1

Scr:

Alpha:

Beta:

3 HOPPC-1-AD-D

J6C060222-1-MSD

03/06/2006 09:19

AmtRec: 500ML

#Containers: 1

Scr:

Alpha:

Beta:

4 HOPPC-1-AE-X

J6C060222-1-DUP

03/06/2006 09:19

AmtRec: 500ML

#Containers: 1

Scr:

Alpha:

Beta:

5 HOPT2-1-AA-B

J6C060000-448-BLK

03/06/2006 09:19

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

6 HOPT2-1-AC-C

J6C060000-448-LCS

03/06/2006 09:19

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

3/6/2006 4:22:10 PM

Sample Preparation/Analysis

Balance Id:

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)

Pipet #: _____

Report Due: 04/20/2006

SI CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 6065448

mg/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments:

All Clients for Batch:

127642, Bechtel Hanford, Inc.

Bechtel Hanford, Inc.

, EC , 27023

HOPPC1AA-SAMP Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

HOPPC1AC-MS Constituent List:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

HOPPC1AD-MSD:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

HOPT21AA-BLK:

HEXCHROME RDL:0.002 mg/L LCL: UCL: RPD:

HOPT21AC-LCS:

HEXCHROME RDL:0.002 mg/L LCL:85 UCL:115 RPD:20

HOPPC1AA-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Mot.: Y ODRs: B

HOPPC1AC-MS Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Mot.: Y ODRs: B

HOPPC1AD-MSD:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Mot.: Y ODRs: B

HOPT21AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Mot.: Y ODRs: B

HOPT21AC-LCS:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Mot.: Y ODRs: B

Approved By _____ Date: _____

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 6

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.18